

CILBOND 65W is a Water-Based One-Component Bonding Agent for Silicone Rubber, Peroxide-Cured Fluoroelastomers and HNBR's, and ACM compounds.

BENEFITS OF CILBOND 65W

BONDING CAPABILITIES :

Cilbond 65W is a one coat bonding system for bonding various silicone rubber compounds to metal and fabric substrates. **Cilbond 65W** is also recommended for the bonding of Acrylic compounds.

IN-SERVICE BENEFITS :

Cilbond 65W exhibits excellent environmental resistance, particularly to high temperatures and lubricating and transmission oil up to or above 200°C.

For in-service temperatures well above 200°C or for the bonding of difficult to bond compounds and some fast cure compounds, we recommend using the solvent-based grade, **Cilbond 36**.

PROCESSING BENEFITS :

Cilbond 65W offers exceptional resistance to extended high-temperature post-cures.

WHERE TO USE CILBOND 65W

The environmental resistance of **Cilbond 65W** makes it ideal for use in the manufacture of :

- Silicone Hoses
- Oil Seals
- Shaft Seals
- Gaskets
- Engine Mounts
- TVDs
- Rollers

TYPICAL PHYSICAL PROPERTIES OF CILBOND 65W

Appearance	<i>Milky emulsion, drying to a clear or hazy film</i>
Viscosity - Brookfield LV2 / 30rpm @ 26°C	<i>60 cps</i>
Non-Volatile Solids / Concentration	<i>15% by weight</i>
Specific Gravity, 26°C	<i>1.01</i>
Flash Point (Abel Pensky)	<i>Not Applicable (Non-flammable)</i>
Bonding Temperature Range	<i>120 - 260°C</i>
Typical Coverage at 5-10 microns (dry)	<i>20-25 m² / Litre</i>
VOC's	<i>ca. 4%</i>
Shelf Life	<i>12 Months from Date of Manufacture</i>

METAL SURFACE PREPARATION

Cilbond 65W must be applied to clean surfaces, preferably blasted with 200–400 micron chilled iron or alumina grit and solvent degreased. Alternatively, proprietary phosphated surfaces may be used.

For detailed recommendations on substrate preparation refer to **Information Sheet A1**.

APPLYING CILBOND 65W

- AGITATION** It is necessary to stir **Cilbond 65W** gently before use, occasionally during use, and also when adding any diluents.
- BRUSHING** **Cilbond 65W** can be brush applied without the need for dilution. If required, dilute with 10% de-ionised water
- SPRAYING** Dilute **Cilbond 65W** with deionised water to 10-15 sec using a DIN 4 or Frikmars 4mm cup. Use a low pressure on the spray system, typically 0.5-1.0 bar fluid pressure and 1.5-2.5 bar air pressure. HVLP guns are recommended with a nozzle size of between 1.0-1.5 mm.
- DIPPING** Dilute with up to 5 parts deionised water to 1 Part **Cilbond 65W** and stir.
- DILUTION** Recommended diluents include de-ionised or distilled water. It is possible to use blends of water and alcohols or glycol ethers, but any diluent blend must be validated. If the solvent content is too high, the polymer system will be destabilised and may coagulate.
- On some surfaces, where dilutions are above 4:1 of Water : 65W are used, the addition of a thixotropic additive such as those below may be required to increase the viscosity and improve coverage.
- Try **Blanose 7HC** from **Aqualon** (use as a solution in deionised water at <1% solids content), **Natrosol HR Grades** from **Hercules** (use as a solution in deionised water at <1% solids content) or other cellulosic or starch gums.
- COATING THICKNESS** For many applications, including oil seals, a dry thickness of at least **5 microns** is recommended.
- For high oil-extended silicones a dry thickness of at least **10 microns** is recommended and for larger components, especially suspension/engine mounts and TVD's, a dry coating thickness of >20 micron may be required.
- DRYING** Allow to dry for 40 to 60 minutes at a minimum room temperature of 20°C. Preferably apply on pre-heated metals at 40-50°C and then post heat the metals to a surface temperature of 50-70°C until thoroughly dry. This will avoid blistering of the film. The dry films are tack-free and resist wiping for most compression and transfer moulding techniques.
- PRE-BAKING** It is vital to ensure all the water is dried out of the coating of **Cilbond 65W**, otherwise blistering may occur at the bond line during the moulding cycle. Because of this, a short pre-bake is likely to be a necessary procedure and may be part of the drying cycle; for example a pre-bake in an oven for 10 minutes at 80°C may be adequate.
- For some applications, a pre-bake of up to or even above 20 minutes at up to 135°C may be of benefit in improving migration resistance and wiping resistance, though the optimum pre-bake conditions for each compound must be assessed. The maximum pre-bake resistance may be as high as 30 minutes at 160°C.



ADDITIONAL INFORMATION

MOULDING	Cilbond 65W will tolerate all moulding processes. For very high injection pressures, it may be necessary to give the dried coating a pre-bake to toughen the film and prevent wiping.
POST-CURES	Cilbond 65W can tolerate long post-cure cycles, as employed with some compounds, but for high temperature post-cures of $\geq 190^{\circ}\text{C}$, best bonding is often best achieved by using a step post-cure.
STORAGE	Dried, coated parts may be stored for a period of several weeks, provided they are protected from contamination.
CLEANING	Water is the preferred cleaning solvent, but if the material has film-formed, solvents such as methanol and MEK may be required to remove hardened material.

PACKAGING

Cilbond 65W is supplied in 1 litre and 25 litre containers. 250ml trial samples are also available upon request.

FURTHER INFORMATION

For more information on **Cilbond 65W** or for details of our other products please visit www.cilbond.com or e-mail sales@cilbond.com